

IV. The Ecological and Social History of Fresh Pond Reservation

A. An Ancient Landscape

Carved out by melting glacial ice and fed by underground springs, Fresh Pond and its natural watershed predate the earliest known human settlements in Cambridge. Some 2000 to 4000 years ago, Native Americans drank from Fresh Pond's waters, fished in the pond and its neighboring streams and hunted its marshes and uplands.

B. Colonial Settlers — 1600s

When Europeans arrived in the Fresh Pond area in the 1600s, they found on the north and east a wetland ecosystem marked by fertile marshes, small meandering, fish-filled streams, numerous small pools, forested wetlands of pine and maple and broad meadows. Colonial settlers followed the example of area tribes who constructed fish weirs along Alewife Brook, which traversed the "Great Swamp" to the north of the pond. Each spring alewives returned from the Atlantic, swam up the Mystic River into Alewife Brook and its sister streams to spawn. Colonists cut hay in the Fresh Pond meadow and hunted ducks in the wetlands.

To the south and west of the pond were the forested slopes of the Fresh Pond Moraine, a ridge of glacial debris containing the pond within the Mystic River watershed. This glacial ridge — which includes Avon Hill, Observatory Hill, Reservoir Hill, and Strawberry Hill — separated these areas from the Charles River watershed and the rest of Cambridge, slowing development until the Concord Turnpike (Concord Avenue) was extended across the moraine in the 1800s.

C. Rural Life: Rural Retreat — 1700s-1820

In the 1700s farms and orchards were established along the pond's southern and western edges and on the high bluff above Black's Nook on the north. By the late 1700s, the clear waters and rural landscape of Fresh Pond and neighboring Spy Pond were attracting well-to-do Bostonians in search of recreation and escape from the congested city. A wealthy Boston merchant purchased the farmland above Black's Nook as a country retreat in 1798. On a scenic overlook above the pond's eastern shore, Nathaniel Wyeth built the Fresh Pond Hotel in 1796 (This site is now Kingsley Park).

D. Resources Become Commodities: The Ice and Brick Industries

By the 1800s, industry was competing with recreation and agriculture in the Fresh Pond watershed. Clay was dug in large quantities from the area's swamplands to support the growing brick industry. Ice was first cut commercially from the pond in the 1820s.

“By the 1830s the ice business was flourishing. Ice from Fresh Pond was packed in sawdust and shipped to South America, Europe, and India. In 1864, 95,000 tons of ice were shipped from Fresh Pond, an amount equal to the entire annual harvest on the Hudson River. Icehouses were the first large industrial structures in northwest Cambridge, and by the 1850s thirty-five icehouses ringed the Fresh Pond shoreline, some as large as 180 feet by 300 feet. The first railroad to northwest Cambridge was built in 1842 to carry ice from Fresh Pond to the Charlestown wharves. The Watertown Branch of the Boston and Maine Railroad, was constructed parallel to one of the Fresh Pond spurs in 1846”¹ (See Figure 3).

E. Drinking Water: Engineering Quality and Quantity — 1852-1888

Fresh Pond became the City's drinking water supply in 1852 when a commercial company set up a pumping station across the railroad tracks from the north side of the pond. Pond

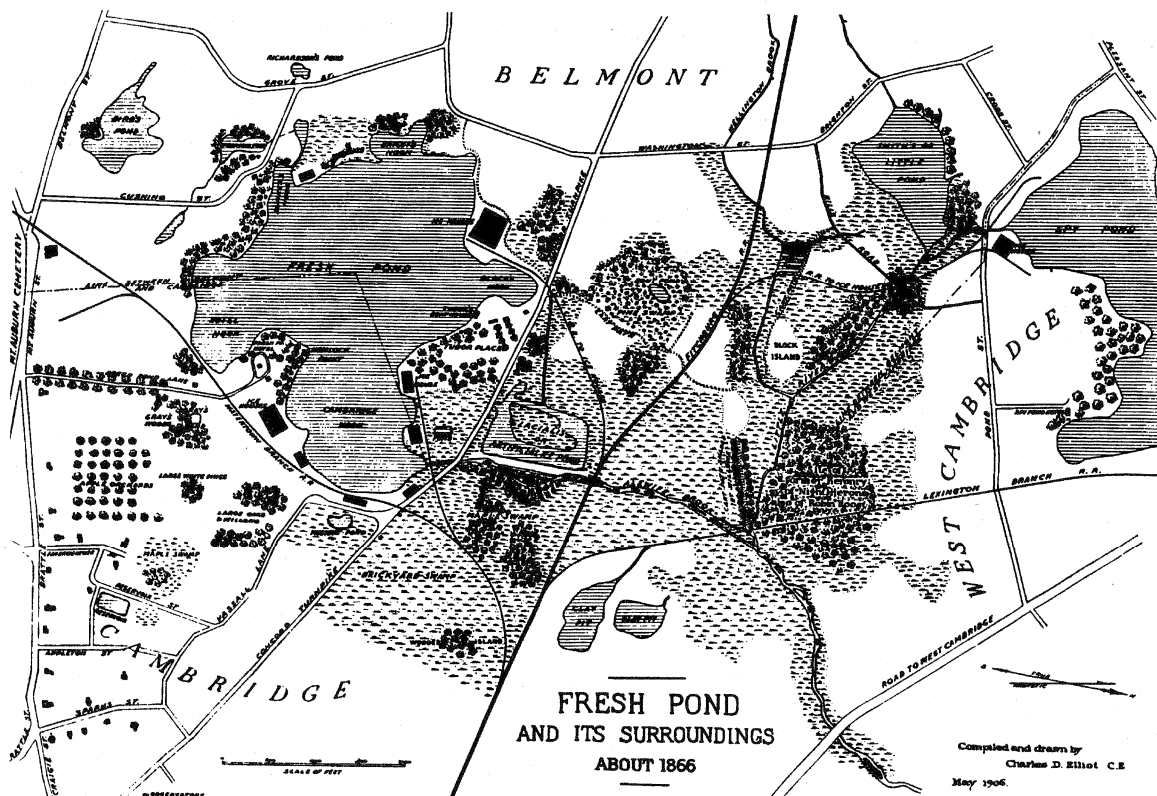


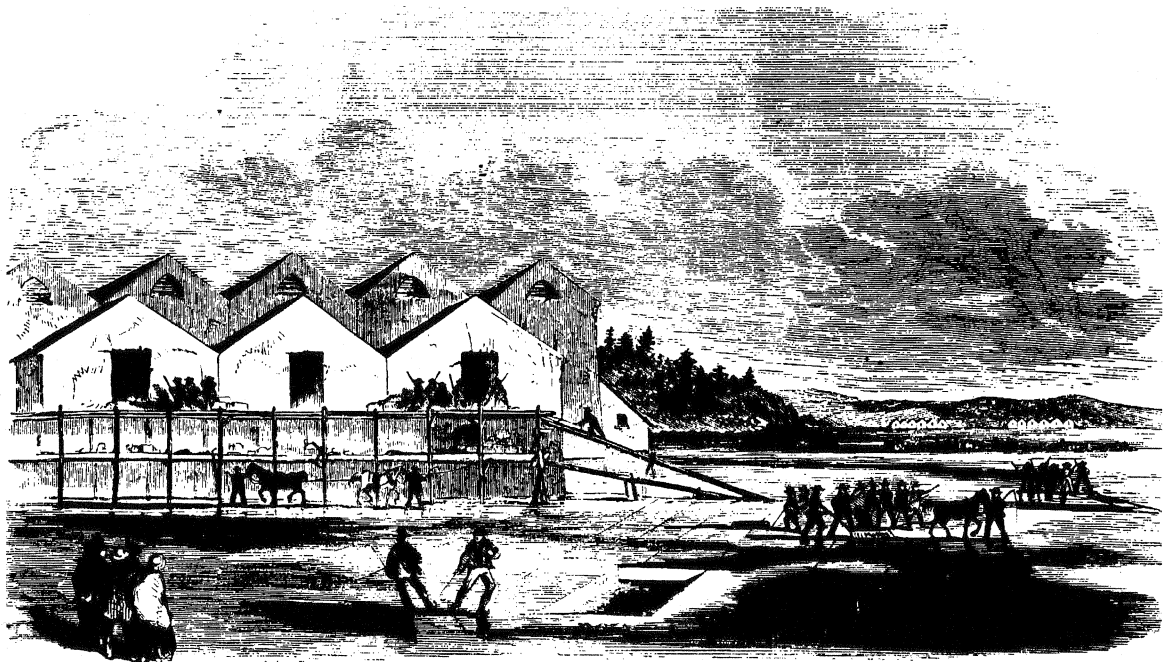
Figure 3: Fresh Pond and its surroundings, about 1866
Source: William Brewster, *Birds of the Cambridge Region*, 1909

water was pumped to the top of Reservoir Hill (now the intersection of Reservoir and Highland Streets). From there the water was fed by gravity to customers across the City.

By 1866, concerned with maintaining the quality and reliability of the pond's drinking water, the City acquired the water company. A map of the Fresh Pond area, circa 1866, drawn by Charles Elliot (in 1902) shows few changes in the original contours of Fresh Pond landscape. The area between the eastern edge of the Reservoir and Spy Pond in Arlington shows marshland dotted with small ponds, islands and streams. The pond shoreline was still varied with irregularly shaped coves. Trees still lined the slopes and the bluffs above the water. Icehouses and boat docks had sprung up along the shoreline (See Figure 4).

Railroad spurs from the Fitchburg Railway now connected icehouses at Fresh Pond and nearby Spy Pond to local and global markets for ice cut from these ponds. The Concord Turnpike was the only major roadway cutting through the Fresh Pond wetlands, allowing Boston vacationers more direct access to the Fresh Pond Hotel.

By 1884, Cambridge, concerned about the quantity of water available to its growing population, successfully petitioned the state to allow it to tap into more distant sources of fresh water. Chapter 256 of the Acts of 1884, "An Act to Provide a Further Supply of Water for City of Cambridge," approved March 21, 1884, allowed Cambridge to take "hold and convey into" the City the "waters of Stony Brook in Waltham and Weston," and also the tributaries of Stony Brook, to "build and maintain a dam" and "to build an aqueduct" to divert the water to Fresh Pond.



ICE-CUTTING AT FRESH POND, CAMBRIDGE, MASS.

Figure 4: Ice-cutting at Fresh Pond, Cambridge, MA 1800's Source: Boston Athenaeum

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To limit pollution of the pond from agricultural and industrial uses, the City had acquired the shoreline bordering several shallow coves, Cambridge Nook and Hotel Nook on the eastern shore, Bright's Nook, (formerly Bunker's Nook) on the western shore and Black's Nook on the northern shore. Two ice companies and several private landowners controlled the rest of the shoreline. Areas of the western shore were within Belmont town limits. Concerns about the quality of Fresh Pond water persisted and in 1888 the City petitioned the legislature to allow it to take over the entire shoreline.

In March 16, 1888, in "An Act to Provide a Reservoir for the City of Cambridge and Protect the Purity of its Water Supply," the Commonwealth "relinquished" its "right and control in the great pond known as Fresh Pond" to the City "so long as Fresh Pond shall be used by the City of Cambridge as a reservoir, storage basin and water supply." The Act further allowed the City "by purchase or otherwise, [to] become the owner of all the land abutting on said pond; and have the exclusive right in and control over said pond, and power to prevent all persons and animals from entering in...so long as Fresh Pond shall be used by the City of Cambridge as a reservoir, storage basin and water supply"..." so that the City "may better guard and protect the waters from pollution and intrusion."

A "Plan of Fresh Pond" filed with the Middlesex Registry of Deeds on August 16, 1888 detailed the private plots to be acquired by the Water Board on order of the City Council and the Mayor. On January 14, 1889, Cambridge officially took the land. The new Fresh Pond water supply protection area was bounded by Huron and Concord Avenues, and what are now Fresh Pond Parkway, Grove Street and Blanchard Road.

Over the next five years (1889-1893), the Water Board, in an attempt to prevent polluted and stagnant waters from entering the pond, dammed, graded and filled the landscape to separate Fresh Pond from its natural watershed. Gravel dikes were built to cut off the shallow coves of Black's Nook and Bright's Nook (now Little Fresh Pond) from Fresh Pond. "Pits [were] cut deep into hillsides to supply gravel for the dikes and to fill many of the small marsh ponds within the new reservation. "A wide gravel road" was built atop the dikes, "encircling the pond and directly on its shore, which was riprapped and surrounded by a high rail fence." The road cutting undermined many trees along the pond's steep banks. The southern slope which had been "covered with beeches, chestnuts and other trees" was regraded and "covered with turf."² The former Fresh Pond Hotel, now a convent, was moved to Lakeview Avenue. The icehouses and all the shoreline structures were removed. Only the Warden's House, built in the 1840s on the bluff at Black's Nook, remained until it was demolished in the 1980s.

F. The Olmsted Years:

Repairing a Landscape, Building a Public Park —1894-1909

In 1894, a new member of the Water Board, Stillman Kelley, was appointed to head a subcommittee to improve the landscape surrounding the pond. On the advice of Cambridge Park Commissioner Henry D. Yerxa, Mr. Kelley contacted the firm of Olmsted, Olmsted and Elliot, the premiere landscape architecture firm in America, founded by Frederick Law Olmsted Sr., his son J. C. Olmsted and Charles Elliot, the creator of the Metropolitan Park System. When J. C. Olmsted visited Fresh Pond in 1894 with Mr. Kelley he noted in a memo that the “narrow screening, the raw bluffs, the monotonous formal shoreline” presented “difficulties of no little importance” to repair “an uncommonly fine piece of landscape.”

“As we viewed the place the other day and perceived the beauty of the natural setting of the pond among the hills and the incongruously stiff lines of the engineer’s work about the shores, it struck us that it was time that the people of Cambridge determined in what way their one large reservation may be made to serve their recreation and refreshment. Does a large public reservation yield to dwellers in cities the greatest possible return when it is

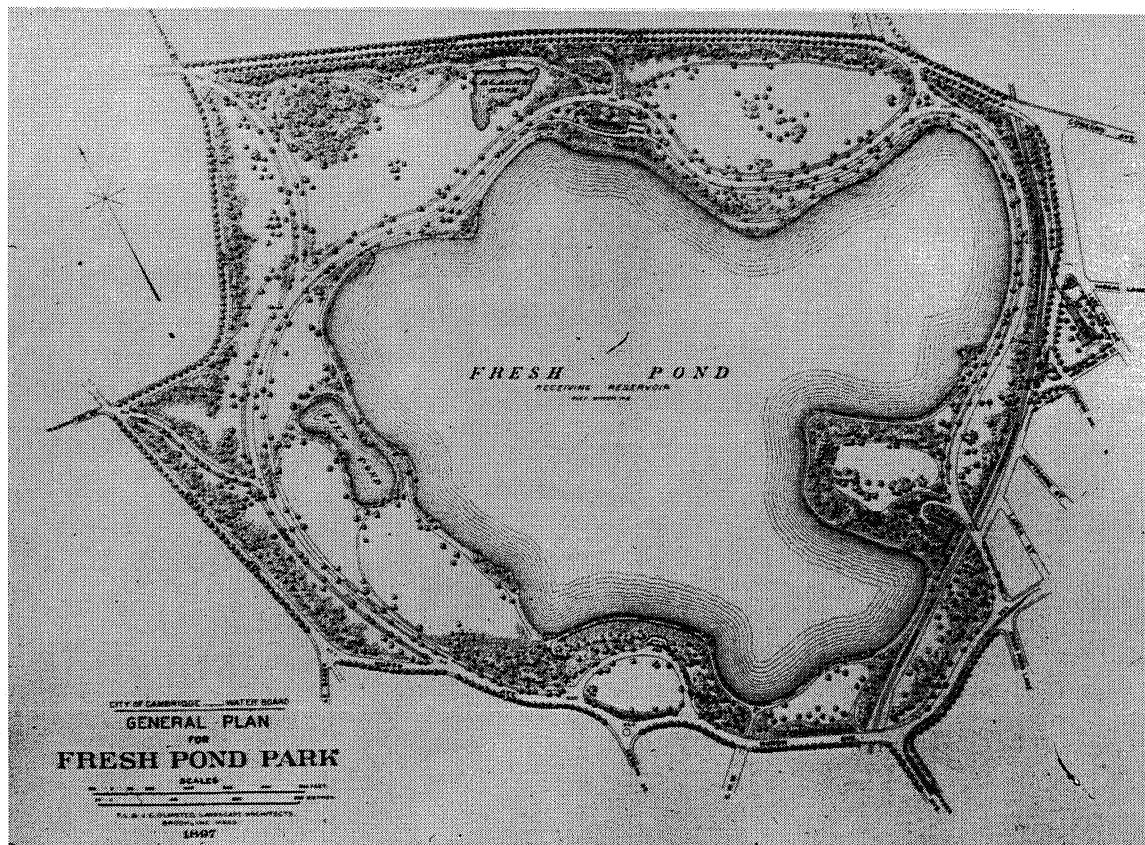


Figure 5: General Plan for Fresh Pond 1897 Source: Olmsted Brothers 1897

planned on lines as formal as those of city streets? Does it not rather return its greatest dividend of benefit only when it is made as different as possible from a town and presents the aspect of natural scenery? It is true that the curvilinear shore line and the hills above the pond cannot be wholly destroyed, but they can be made stiff, hard and unnatural to the great loss of Cambridge as we believe.”³

Over the next 15 years working for the Water Board, the Olmsted firm supervised the regrading of the lands and the planting of thousands of trees, shrubs and groundcover, in an effort J.C. Olmsted called the “making and preserving of a broad landscape of an interestingly natural and picturesque character.”

The Olmsted firm’s “Planting Plan for Fresh Pond Property” included a total of 108,300 plants at an estimated cost of \$1600. Trees dominated the list which included 750 sugar maples, 685 beech trees, 845 birch trees, 1,850 willows, 320 oaks, 3,000 hemlocks and 25,000 white pines.

In dozens of letters and memos exchanged by the Olmsted firm and the Water Board, planting plans, plant lists, landscape maps, construction priorities, designs to accommodate water works infrastructure and limit erosion, personnel issues, budgets and Water Board and City general funding issues were discussed and resolved.

An illustrated “General Plan for Fresh Pond Park” was delivered to the Water Board in 1897 (See Figure 5). Dozens of other detailed scaled drawings of specific park sites were presented to the Water Board over the course of their long working relationship with the Olmsted firm. By 1898, both F. L. Olmsted Sr. and Charles Elliot had died and the firm’s work was carried on under the direction of Olmsted’s sons, J.C. Olmsted and F.L. Olmsted Jr. under the name of Olmsted Brothers. A number of stately specimen trees and descendants of trees planted under the Olmsteds’ direction continue to survive in many areas of the Reservation. Landscape architect Arthur Comey noted in a 1921 article that “the southeast side of the park is fully developed according to the [Olmsted] plan.” He expressed concern that the Olmsted plans “for the modification of the present stiff shoreline” had not been completed, leading to the shoreline’s “present unlovely appearance.”⁴

G. The First Water Filtration Plant — 1915

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Once again to ensure the quality and quantity of water available to the City, Cambridge began in 1915 and completed in 1922 a water works replacement project. A modern filtration plant was built along the shoreline in what was known as Kingsley Park, also the former site of Wyeth’s icehouse replacing the pumping station across the tracks at the intersection of Lakeview Avenue and Fresh Pond Parkway. A new finished water holding reservoir, now Payson Park, was built atop a high hill in Belmont, replacing the Reservoir Hill facility.

H. Additional Municipal Uses, New Structures — 1925-1950

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A decade and a half after the Olmsted's final work at Fresh Pond, the City petitioned the legislature to use "a portion" of the land they had been empowered to take in 1888 for water supply purposes for "a City home" for the indigent and for "a playground."

In the Acts of 1925, Chapter 225, approved April 7, 1925, the Commonwealth authorized these two new uses within the Fresh Pond Reservation. In 1928, on the hilltop above Black's Nook, where Olmsted had planned a scenic overlook, a refreshment station, and a grove of trees, the City erected the "City Infirmary" which was later to become the Neville Manor Nursing Home. A playground, Glacken Field, was later constructed on the high bluff along the Huron Avenue side of the Reservation.

The state legislature allowed another new use, a municipal golf course, for a portion of land acquired "for water supply purposes on February 23, 1932" (Chapter 32 of the Acts of 1932). The golf course replaced the meadow and carriage trails along the western and northwestern shores of the pond. A golf course clubhouse was later constructed along Huron Avenue. Landscaper Arthur Comey wrote that development of a golf course was desirable because he did not expect the sparse population on the west side of the pond to "increase much" and "golf involves little change in the general contour of the land." As the motorcar had displaced the horse and wagon, Comey noted, the Olmsted plans for carriage trails were no longer appropriate. He also proposed that the landscape project be expanded to include Olmsted's previously proposed shoreline improvements. It was not.

I. The Years of Neglect — 1939-1960

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Just prior to World War II municipal neglect and a series of legislative acts accompanied serious deterioration of the Reservation landscape.

In 1939, the City successfully petitioned the legislature for the right to sell off 113,464 square feet of the Reservation's western boundary along Grove Street that had been acquired for water supply on the grounds that the land was "no longer needed for water supply purposes" (Acts of 1939, approved April 10, 1939). Before the parcel was sold, the City again went to the legislature in 1951 for permission to sell off another large parcel along the Belmont line, this time along the whole length of Blanchard Road, an area totaling 129,840 square feet.

In the 1950s and early 1960s, eight acres along the Belmont boundary of the golf course was carved into house lots and sold by the City for private housing. Although the lots had originally been promoted for veterans' housing and buyers were restricted to one house lot each, the lots were priced beyond the reach of most veterans. Several lots were sold to former City officials. Also in this era a training tower for the Fire Department was con-

structed close to the shoreline at the treatment plant and the School Department proposed siting the new Tobin School in the pine forest along Huron Avenue. Public opposition lead the City to find an alternative site for the school.

By the 1960s, many areas of the Reservation were eroded and becoming overgrown with invasive plant and nuisance animal species. Tree plantations were neglected. Border areas were open to the view of traffic and commercial buildings and strewn with trash. Black's Nook had become an illegal dump site entered by an illegal road. Its pond and shoreline were polluted with rusted car parts, old furniture and appliances (See Figures 6 and 7).



Figure 6 & 7: Dumping at Black's Nook 1963 Source: Patricia Pratt, 1963

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J. Landscape Restoration Efforts — 1962-1978

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In 1962, the Cambridge Plant and Garden Club, under the leadership of Ruth Birkhoff along with Mary Kennedy and Pat Pratt, worked with the City to remove the trash, dredge the pond, replant the area with healthy native trees, shrubs and grasses and screen the restored Black's Nook from Concord Avenue (See Figure 8). Ninety-three truckloads of debris (including cars, refrigerators and a sofa) were removed from the Black's Nook pond and surrounding landscape. The Club set up the Cambridge Plant and Garden Tree Fund (1962) to accept donations for planting trees on City land. Birkhoff led the push for a Master Planning Process, to create a "proper scale of a plan" for making improvements to the Reservation.



Figure 8: Cambridge Plant & Garden Club - Restoration of Black's Nook Source: Patricia Pratt, 1963

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As interest in environmental issues grew in the late 1960s, the School Department set up the Maynard Ecology Center in a trailer near the Neville Manor Nursing Home. Using the Ecology Center as a base, teachers began then and continue today to use the reclaimed Black's Nook as an outdoor laboratory. In the 1970s, the Conservation Commission designated two wetland areas at Lusitania Field.

In 1976, with \$5,000 in private funding and \$5,000 in federal money from a Community Development Block Grant, the Plant and Garden Club in a cooperative effort with the Department of Public Works (DPW) sponsored the building of a screening berm and tree planting along Fresh Pond Parkway at "Sozio Corner". In the 1980s, the Garden Club won a \$7,500 National Founder's Fund Award from the Garden Club of America to restore the wetland meadow along the perimeter path between Black's Nook and the golf course. The Club made the plans, raised the funds and purchased the trees; the DPW did the planting.

In 1978 the Cambridge Plant and Garden Club prepared a "Horticultural Review and Recommendations for Planting at the Fresh Pond Reservation" for the Water Board and the Community Development Department and the Fresh Pond Task Force. These volunteers produced an area inventory of the Reservation landscape, noting the type and health of the vegetation and recommending short- and long-term planting and maintenance strategies for "preservation of the Reservation's unique natural qualities" as a "source of plea-

sure” to the “whole city community.” Following this review, the Community Development Department commissioned Roy Mann Associates to prepare the first Reservation-wide planning study since the Olmsted’s work in the 1890s.

In a 60-page report Mann noted, as had Olmsted, the continual pressures on open space in a city as physically small as Cambridge and recommended that the Reservation be protected from further development. The Mann report proposed numerous changes to improve the health and beauty of the landscape, improve recreation areas, afford handicapped access and improve maintenance. The Mann Master Plan was not implemented.

***K. Development Pressures and Ecological Awareness —
1980s to Present***

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In the 1980s, proposals again surfaced to reduce Fresh Pond’s open space, this time for affordable housing near the golf course. At the same time and continuing into the 1990s, use of all areas of the Fresh Pond Reservation for active and passive recreation had multiplied, demanding higher levels of monitoring and maintenance to handle new stresses on the Reservation’s natural resources.

In the 1990s, a series of studies were undertaken to re-evaluate the Fresh Pond Reservoir and landscape in the light of the last 30 years of ecological research and awareness. At the request of the Water Department’s Watershed Manager, an analysis of the ecology of Fresh Pond was conducted by the Mass. Audubon Society in July, 1992. The report warned that “the rampant removal of vegetation from the pond shore will likely have severe negative effects on the ecosystem that has developed around the pond.” It also emphasized the importance of diverse vegetation for “sound ecological management,” particularly through the use of diverse, dense native plantings along the shoreline and understory plantings “to improve water quality.”

A report on Black’s Nook in July, 1995 by Rimmer Environmental Consulting focused on erosion control, tree health, excess nutrients seeping into the water from turf fertilizing, and the serious and growing threat to the health of the area by “invasives,” often non-native, fast-growing and reproducing plants and animals. This report was one of the first to warn of the serious, long-term consequences at the Reservation of invasives, a rapidly growing local and global environmental condition now often referred to by scientists as “bioinvasion.” Rimmer stressed the importance of planting diverse, native species to protecting the watershed. In 1989, the Water Department began a process for replacing the 70-year-old water treatment plant. Among the baseline objectives listed was “that any decision about siting be made in the context of a comprehensive, overall Fresh Pond Management Plan taking into account protection of the watershed and other natural resources of the Reservation.” With encouragement from the Committee on Public Planting to create a separate Master Plan

for the Reservation landscape and non-water supply facilities, the City Manager appointed, in the fall of 1997, a Fresh Pond Master Plan Advisory Committee of Cambridge residents and representatives of City departments involved with the Reservation. This 1999 Master Plan document, the Fresh Pond Natural Resource Inventory and the Fresh Pond Reservation Natural Resource Stewardship Plan are the result of the Advisory Committee's work.

¹ Arthur J. Krimm, *Survey of Architectural History in Cambridge*, Report 5: Northwest Cambridge, Cambridge Historical Commission, 1977 cited in Fresh Pond Reservation Master Plan prepared by Roy Mann Associates, 1978

² Arthur Comey, *Adapting a Park to Modern Needs*, Landscape Architecture, July 1921, p.177-178

³ J. C. Olmsted, Letter to Henry D. Yerxa, President of the Park Commission, Cambridge, MA, October 29, 1894

⁴ loc.cit. Arthur Comey

